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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,423	02/19/2002	Keigo Banno	Q68513	9297

7590 04/08/2004

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EXAMINER

KWOK, HELEN C

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,423

Applicant(s)

BANNO ET AL.

Examiner

Helen C. Kwok

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 2, 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The proposed drawing filed December 2, 2003 is objected. First of all, the Examiner appreciates the reference numerals added to each of the block elements. However, at the same time, the block elements should also include its description within the block elements whereas the filed proposed drawing deleted these descriptions. The Examiner apologizes if she caused any confusion. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,568,281 (Sato et al.).

Sato et al. discloses an ultrasonic wave propagation time measuring method comprising, as illustrated in Figures 3, 8, 10, 12, an ultrasonic wave transmitted by an

ultrasonic element 5 or 5a; a reflection wave received as a reception wave by the same or different ultrasonic element 5b; a period of time between transmission of the ultrasonic wave and reception of the reception wave is measured as a propagation time (column 9, line 66 to column 10, line 2) further comprising a reference value setting step comprises subjecting the reception wave to full-wave rectification 31 to obtain a full-wave rectified wave; integrating 37 the full-wave rectified wave or a portion of thereof to obtain an integral value; setting a reference value 39,41 based on the integral value; and a propagation time measurement step 43 comprises determining an arrival time of the reception wave by the reference value. (See, column 9, line 39 to column 12, line 41).

With regards to claim 2, Sato et al. suggests measuring a point in time when the reception wave has reached the reference value to thereby determine an arrival time in the propagation time measurement step. (See, column 15, lines 23-53; Figure 10).

With regards to claim 3, Sato et al. teaches integrating 37 the full-wave rectified wave to obtain an integral value and measuring a point in time when the integral value has reached the reference value as an arrival time in the propagation time measurement step. (See, column 11, lines 31-41; Figures 3,8).

With regards to claims 4-9, Sato et al. further disclose utilizing the ultrasonic-wave propagation-time measuring method as a gas concentration sensor within an intake pipe or canister purge line of an internal combustion engine. (See, column 7, line 15 to column 8, line 25).

Response to Amendment

4. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference cited is related to a method and apparatus for controlling an air fuel ratio using a gas concentration sensor.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen C. Kwok
Art Unit 2856

hck
April 2, 2004